

REMARKS

Claims 1-27 are now pending in this application. The final Office Action mailed March 31, 2004 rejected claims 1-25. Claims 4 and 19 have been amended. Claims 26 and 27 have been added. No new matter has been added. For the reasons discussed in detail below, Applicants submits that the pending claims are patentable over the art of record and respectfully request that the Examiner pass this application to issue.

Telephonic Interview

On May 27, 2004, a telephonic interview was conducted with the Examiner with respect to the pending claims and in particular, with respect to the differences between indices and data structure types. Although no conclusive agreement was reached, there was agreement that there is a difference between a data structure which may act as a container for the index, and an index, which is not a container for the data.

Rejection of Claims 1-3, 11-15, 17, 18, 20-25 Under 35 U.S.C. § 103

The Office Action rejected claims 1-3, 11-15, 17, 18, 20-25 under 35 U.S.C. §103(a) as being unpatentable over U.S. patent No. 5,926,813 issued to Chaudhuri et al ("Chaudhuri") and in view of U.S. patent No. 5,873,075 issued to Cochrane et al ("Cochrane"). Applicant respectfully traverses this rejection.

The Applicants respectfully submit that the prior art references, even if they could be properly combined do not teach or suggest all of the claim limitations. For example, Claim 1 recites, among other things, a method for employing a plurality of data structure types to optimize the retrieval of at least one data object over a network. Each data object is stored in a data store such that each data object is separately reference in each of the plurality of data structure types. In response to a request for one data object, Claim 1 further recites, automatically determining one of the plurality of data structure types best suited to retrieve the one data object and employing the determined data structure type to locate and retrieve the one data object from the data store.

The Office Action has incorrectly described the claimed plurality of data structure types as indices. Although a data structure may include an index data, a data structure is a specialized container for data, not the data itself. Rather, they are structures for arranging data for subsequent access, such as a list data structure for storing data objects, a Trie data structure, and a hash data structure. See Specification, page 5, line 30, and page 6, line 10. Also see dependent Claim 4.

Unlike the claimed invention, however, Chaudhuri neither discloses nor suggests determining one of a plurality of data structure types, where each data object in a data store is separately referenced in each of the data structure types. Rather, Chaudhuri merely describes an index selection tool that helps in selecting an index configuration or set of indexes for use by a database server in accessing a database. See Chaudhuri, Abstract. This index configuration is described as a set of indices, where an index may be single-column or multi-column, clustered, or non-clustered. See Chaudhuri, Col. 5, lines 50-54.

Clearly, an index is a form of data that is contained in a data structure; it is not the data structure itself. That is, an index is not the data structure. This distinction between data structures and indices is important, because nowhere does Chaudhuri teach or suggest a plurality of data structure types. Instead, Chaudhuri merely discloses approaches for selecting an optimal index configuration by using a cost evaluation tool. See Chaudhuri, Col 10, lines 12- 47. Chaudhuri does not directly address the determination of one of a plurality of data structure types. Because Chaudhuri does not disclose or suggest each data object being separately referenced in each of the plurality of data structure types, Chaudhuri also does not determine one of the plurality of data structure types best suited to retrieve the one data object. Furthermore, Chaudhuri does not disclose or suggest determining another one of the plurality of data structure types best suited to retrieve the plurality of related data objects. Thus, for at least these reasons, Applicants respectfully submit that Chaudhuri does not render the claimed invention obvious.

Dependent Claim 3 recites that “the plurality of related data objects have at least one related characteristic, including port, IP address and type.” Chaudhuri merely provides an index selection tool. It does not disclose or teach data objects with related characteristics, including port,

IP address, and type. No place does Chaudhuri even discuss an IP address. Thus, for at least this reason, Chaudhuri does not render the Claim 3 obvious.

Therefore, Applicants submit that at least because of the reasons presented above, the cited art does not make Claim 1 obvious. Additionally, because independent Claims 14, 17, 21-23, and 26 include similar limitations as Claim 1, albeit different, they are also allowable for at least substantially the same reasons as independent Claim 1.

In regard to Claims 2-13, 15-16, 18-20, 24-25 which are dependent on amended independent Claims 1, 14, 17, and 23 respectively, they are allowable for at least the same reasons discussed above for those independent claims.

New Claim 26

New claim 26 recites, a method for retrieving at least one data object associated with a network connection that, among other things, in response to a request for a plurality of related data objects having at least one related characteristic including a port number and an IP address, automatically determines another one of the plurality of data structure types best suited to retrieve the plurality of related data objects. None of the references cited by the Office Action describes or suggests a data object associated with a network connection. None of the references cited describes or suggests a plurality of related data objects having at least one related characteristic including a port number and an IP address. Thus, for at least these reasons, new Claim 26 is not rendered obvious by the cited references and should be allowed to issue.

CONCLUSION

By the foregoing explanations, Applicant believes that this response has responded fully to all of the concerns expressed in the Office Action, and believes that it has placed each of the pending claims in condition for immediate allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. Should any further aspects of the application remain unresolved, the Examiner is invited to telephone applicant's attorney at the number listed below.

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Respectfully submitted,

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